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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,844	03/19/2001	Louis Peter Huber	P04870US0	9248

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DES MOINES, IA 50309-2721

EXAMINER

EASTHOM, KARL D

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 04/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,844

Applicant(s)

Huber et al.

Examiner

Karl Easthom

Art Unit

2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 15, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 20) ☐ Other:

1. Applicant's election without traverse of Group I in Paper No. 5 is acknowledged.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto et al. (JP 4-214601). The claimed invention is disclosed at the abstract, cols. 3, lines 1-10 (RuO - a thick film), col. 6, line 14 - nickel barrier 9a, with first and second films 4 and 5 separated by encapsulant 1.
4. Claims 1-10, 13-19, 21, and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe et al. Abe discloses the claimed invention where the glass encapsulant is 5, and 2a, 4a are deemed film resistors, and thick film resistors, where they are in a film form, and are pastes, as opposed to thin films. Moreover, no separate substrates are claimed. The barrier is either 2a, 3a, etc., disclosed as nickel. Or Ni/Sn terminal 8 meets claims 9-10, and also claim 1 since it has nickel - it is a nickel barrier.
5. Claims 9, 12 and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. Nakamura discloses the claimed invention at Figs. 3-4 with glass layers 2 (described as zinc borosilicate glass at col. 2, lines 67a-69) as the encapsulant meeting all claims, including the frit claims. Resistor 14 is described as a plurality of resistance films laminated between the glass/ceramic layers 2 at cols. 7-8, see col. 8, lines 18-55 - meeting claims 16-17.

Ruthenium is disclosed at col. 8, meeting applicable claims thereto. The metal barrier is the conductive paste containing Ag and Pd - where Ag and Pd are metal 5.

6. Claims 5-6, 9-15, 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (4-2146010) in view of Ariga et al. The claimed invention is disclosed as noted above except the glass. Where glass frit is claimed, the glass is made of glass frit. Ariga discloses alumina, ceramic and glass substrates as equivalents at col. 3 for ruthenium resistors such as that of Hashimoto, so that it would have been obvious to make exchange one known equivalent substrate for another where each are compatible with ruthenium.

7. Claims 1-8, 10-12, and 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view of Claypoole. Nakamura discloses the claimed invention except the nickel barrier at Figs. 3-4 with glass layers 2 (described as zinc borosilicate glass at col. 2, lines 67a-69) as the encapsulant meeting all claims, including the frit claims. Resistor 14 is described as a plurality of resistance films laminated between the glass/ceramic layers 2 at cols. 7-8, see col. 8, lines 18-55. The caps of claim 18 are silver palladium 5. (It would have been obvious to make any number of such layers, meeting all claims as to the number of layers, where a plurality is disclosed). Ruthenium is disclosed at col. 8, meeting applicable claims thereto. Claypool discloses a nickel barrier 26 for the purpose of connecting to a silver palladium frit terminal such as that of Nakamura at col. 3, lines 44-50, and Fig. 5, where the nickel alloy at col. 3, lines 13-18, is a nickel barrier. It would have been obvious to form such a barrier where leads are desired since the barrier is compatible with silver palladium.

8. Claims 1-4 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6283301 in view of Hashimoto JP (4-214601). JP '301 discloses the claimed invention at Fig. 6c except the nickel barrier and except for disclosing film resistors explicitly stacked together. There is a suggestion that elements 31,32,33 can all be resistors of the same type, where different types of chips that are the same size are stacked together to save space, and since two or more chip elements are disclosed as stacked. Further, applicant admits at page 1 that the resistors of the same type have been stacked as is known to increase capacity. The end caps are of silver for claims 18 and 22. The encapsulant is the adhesives noted on page 2 of the machine translation. The metal barrier is 13. Nickel barriers are known for attachment to metal end caps and for solderability, such as the nickel 9a of Hashimoto. It would have been obvious to replace the Cu metal cap 33 with one made of nickel where each reference discloses a metal connected to a ruthenium resistor, for the purpose of forming a good solderable lead.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703) 308-3306. The examiner can normally be reached on M-Th from 5:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703) 308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


KARL D. EASTHOM
PRIMARY EXAMINER